Ben. N. Peach, F.R.S., H.M. Geological Survey
John Horne, F.R.S., Assistant Director of the Geological Survey for Scotland
C. Lloyd Morgan, F.R.S., Professor of Biology and Geology in University College, Bristol
Sydney Young, F.R.S., Professor of Chemistry in University College, Bristol
W. Boyd Dawkins, F.R.S., Professor of Geology and Palæontology in the Victoria University, Manchester
R. T. Glazebrook, F.R.S., Director National Physical Laboratory
H. B. Tristram, F.R.S., Canon of Durham
H. Kynaston, D.D. (Camb.), Canon of Durham and Professor of Greek in the University of Durham
L. C. Miall, F.R.S., Professor of Biology Yorkshire College
Arthur Smithells, F.R.S., Professor of Chemistry Yorkshire College
J. B. Bradbury, F.R.S.E., M.D., Downing Professor of Medicine University of Cambridge
Thos. W. Shore, F.G.S., Hon. Sec. London and Middlesex Archæological Society
W. E. Ayrton, F.R.S., Professor of Electrical Engineering City and Guilds Central Technical College
Aston Webb, A.R.A.
G. B. Howes, F.R.S., Professor of Zoology Royal College of Science
Wm. Garnett, Secretary Technical Education Board L.C.C.
Adam Sedgwick, F.R.S., Reader of Animal Morphology University of Cambridge
W. Aldis Wright, Vice-Master Trinity College, Cambridge
Thomas Shaw, K.C., M.P.
William Ramsay, F.R.S., Professor of Chemistry in University College, London
H. Charlton Bastian, F.R.S., Emeritus Professor of Medicine University College, London
F. A. Channing, M.P., Past Lecturer in Philosophy University College, Oxford
Wm. Allan, M.P.
Isaac Bayley Balfour, F.R.S., King's Botanist in Scotland
Francis Elgar, F.R.S., Past Director of H.M. Dockyards
N. Bodington, Litt.D., Principal, Yorkshire College
Frank E. Beddard, F.R.S., Vice-Secretary Zoological Society

Sheweth

That Whereas His Majesty King Charles II., in order to prove that His Majesty did "look with favour upon all forms of Learning" and particularly "Philosophical Studies," and in order that such Learning and Studies should "shine conspicuously" among his People, did by Charters granted in the 14th, 15th and 21st years of His Reign found the Royal Society for the promotion of such Learning and Studies

And Whereas the progress of Learning and Philosophical Studies has been great, and scientific methods of inquiry have been applied to many new fields of knowledge since the time of His Majesty King Charles II.

And Whereas Your Petitioners are of opinion that it is desirable that all the Intellectual forces of the Realm should be so organised as to promote the greatest advancement of Scientific Studies within the Empire

And Whereas a large and influential group of representatives of Studies connected with History, Philosophy and Philology have lately presented a petition to Your Majesty praying to be embodied under Royal Charter as an Academy or like institution

And Whereas Your Petitioners are of opinion that such incorporation can be most efficiently provided for in some relationship to the Royal Society

We Your Petitioners humbly pray that Your Majesty may be graciously pleased to cause an Inquiry to be made with a view of instituting a general and formal organisation of all the Studies depending upon Scientific Method now carried on similar to that inaugurated for the Philosophical Studies of the 17th century by the Charters of His Majesty King Charles II.

And Your Petitioners will ever pray,

POSITION AND PROMISE OF WIRELESS TELEGRAPHY.

THE meeting of Marconi's Wireless Telegraphy Company held last week was of more interest than such meetings usually are, as Mr. Marconi made use of the opportunity by replying in a long speech to the many adverse criticisms which had been passed on his work. No new development has ever been brought about without having to encounter a certain amount of opposition; wireless telegraphy is no exception to the general rule, and the criticism which it has had to meet has been accentuated on account of the magnitude of the interests vested in cable enterprise. But wireless telegraphy has also enjoyed more than its share of popular enthusiasm, and it is perhaps partly on account of the unreasoning nature of this enthusiasm that technical writers have thought it desirable to sound a warning note. It is doubtless unnecessary to sell out cable shares immediately because the signal "S" has been successfully transmitted across the Atlantic, but it is equally unnecessary to assume that the result is not genuine before the details of the experiments have been published. With reference to these recent experiments, and the suggestion put forward by some of the technical papers that Mr. Marconi was deceived by atmospheric disturbances, he appeals, we think with justice, to his long experience in the matter as sufficient guarantee of the genuineness of the result, and points out that in his first successful experiment over 200 miles it was the same signal that was received.

The question has often been asked, Why is it that, if a distance of 2000 miles can be bridged, the system is not in actual commercial operation over shorter distances?

To this Mr. Marconi replies that the Post Office monopoly prevents its adoption round the coasts of this island, but that it is in continuous and perfectly satisfactory work in connection with more than seventy ships and twenty-five land stations, as readers of NATURE are aware from paragraphs which have appeared from time to time in our Notes columns.

The greatest interest, however, centres around the questions of the speed and the secrecy of signalling. Mr. Marconi states that with his latest apparatus a speed of twenty-two words a minute is obtainable. For short distances much higher cable speeds are possible, but in Transatlantic work the speed of signalling under the best conditions is only about forty words per minute, so that in this respect wireless telegraphy can certainly become a serious competitor. Distance, it is stated, has no effect on the rapidity of signalling by ætheric waves, a result which was, of course, to be anticipated on theoretical grounds.

As to secrecy, Mr. Marconi asserts that the development of his syntonic system has been carried so far that no interference troubles need be feared, and quotes an interesting example in support of this contention. The permanent station at the Lizard is at present able to work with ships without suffering any interference from the working of the big-power station at Poldhu, only seven miles distant, from which the signals were transmitted to Newfoundland. The solution of the problem of tuning has always been seen to be of fundamental importance to wireless telegraphy, and if Mr. Marconi has successfully achieved this result, it is a development greater and more far-reaching than even the Transatlantic signalling. That he is himself confident of having done so may be inferred from the challenge which he issued to Sir W. Preece and Prof. Lodge to intercept and read any of his messages, for which purpose he offers to put any of his adjacent stations at their disposal.

At the present day, when the general public takes

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so much interest in scientific progress, any new development becomes so soon the centre of numberless contradictory and inaccurate reports that it is often difficult to get at the truth of the matter. Mr. Marconi's authoritative statement last Thursday is therefore very welcome. Even those most sceptical of the ultimate value of the discovery cannot but admire the energy and perseverance which Mr. Marconi has shown throughout. Whilst others have been pointing out its impracticability, he has been steadily making it practicable, and, considering the splendid results which he has already achieved, one cannot help sharing his confidence in his ultimately attaining complete success. M. S.

PROF. I. V. MUSHKETOFF.

WE regret to see the announcement of the death of Prof. Ivan Vasilievich Mushketoff, the president of the physical geography section of the Russian Geographical Society, at the age of only fifty-two.

Prof. Mushketoff was from the Don region, where he was born in 1850, and received his early education at the Novocherkask lyceum. In 1867 he entered the St. Petersburg University, joining the philological faculty, but soon went over to the Mining Institute.

Already while a student he published his first original research on the Volhynite, and in 1872 he began his continuous, almost uninterrupted explorations of Russia, first in the Urals, where he discovered a gold-bearing formation of arsenicated minerals—pharmacosiderite, arseniosiderite, &c.—and then on the Don. Next year, 1873, he was in Turkestan, where he remained for six years, making extensive journeys. He embodied the results of his explorations in a great number of geological and geographical papers, as also in a remarkable work, "Turkestan," vol. i. (1886), which was described in these pages, and, with Prof. Romanovsky, in a geological map of Turkestan.

In 1881, Mushketoff began the exploration of the Caucasus, and especially of the Astrakhan, the Kalmyk and the Kirghiz steppes, and later on of the Transcaspian region, of which he published an excellent geological description, with a map, in 1892.

A second journey to Turkestan, in order to explore the earthquake at Vyernyi, brought Mushketoff to the study of earthquakes in Russia, for which purpose numerous regular observations and a catalogue of earthquakes (by Orloff) were published by him in the periodicals of the Geographical Society. Later on he became interested in glaciers, and organised for the International Commission on Glaciers the first regular observations in Russia upon the oscillations of the glaciers of the Caucasus. All these researches enabled him to publish the first volume of an excellent course of physical geography (1891) and a short course of petrography (1895). In 1882 he was nominated head geologist of the Geological Committee, and took, in this capacity, a lively part in the geological survey of Russia. From 1885 he was president of the physical geography section of the Russian Geographical Society, and in this capacity he took, with P. P. Semenoff, the liveliest part in the organisation of all the expeditions of the Society, as well as in its publications, of which the "Annuary" is perhaps the most remarkable for the fulness of information about all geographical, geological, geo-botanical, geo-zoological and anthropological work done in Russia.

In Mushketoff, both Russia and science have lost one of their best physical geographers. He was at the same time an excellent man, and the obituary notices published in the Russian papers represent him as a most sympathetic friend of the Russian youth. P. K.

NOTES.

M. C. ANDRÉ has been elected a correspondant of the Paris Academy of Sciences, in the Section of Astronomy.

THE council of the Zoological Society has resolved to bestow the gold medal of the Society upon Sir Harry Johnston, in consideration of his very great services to zoological science, and in commemoration of his discovery of the Okapi, and the silver medal of the Society upon Mr. E. W. Harper, of Calcutta, in acknowledgment of his numerous contributions of rare Indian birds to the Society's collection. These medals will be presented at the general meeting of the Society on June 19.

IN accordance with the usual custom, the French Physical Society announces that two meetings for the exhibition of experiments described before the Society during the year will be arranged for on Friday and Saturday, April 4 and 5. On the first evening members only will be admitted; the second will be open to visitors. The rooms of the Society (44 Rue de Rennes, Paris) will be open during the whole of the Saturday for those desirous of studying the experiments more at their leisure than is possible in a crowded meeting.

THE Belgian Royal Academy makes the following announcements as to awards of prizes on scientific subjects for 1901:—For the first question, as to the part played physiologically by albuminoid substances in the nutrition of animals or vegetables, no award has been made. For the second question, relating to the organisation and development of a Phoronis, one essay has been submitted which has been adjudged worthy of honourable mention. On the subject of the effect of external influences on karyokinesis and cell-division in plants, an essay has been submitted by Mdlle. Maria Maltaux, of Laeken, to whom a silver medal has been awarded. The Charles Lemaire prize has been awarded to M. Paul Christophe, engineer of the Belgian "Ponts et Chaussées."

MR. CARNEGIE'S gift of ten million dollars, in 5 per cent. bonds of the United States Steel Corporation, for the promotion of scientific research, has already been announced in these columns, and an outline has been given of the Carnegie Institution to be founded for this purpose (pp. 278, 302). A meeting of the trustees of the institution was held at the end of January, when Mr. Carnegie described briefly the object he had in view in making the gift, and gave emphasis to his repeated desire that the income of the fund should be largely devoted to extending human knowledge by original investigation and research. The methods by which knowledge is to be advanced are left to the free action of the trustees, who will await the carefully matured suggestions of the executive committee. "Nothing," says *Science*, "has been done in founding the new institution to further or to hinder the establishment of a national university which has been so many times proposed to Congress. Nothing is projected which will in any way interfere with the purpose of the George Washington Memorial Association to secure the funds requisite for the erection of a memorial building. Nor has there been any step taken which will prevent the Washington Memorial Institution, initiated early in the last summer, from developing plans for the introduction of students to the various scientific bureaus of Washington. The Carnegie Institution is simply a new force for the promotion of science, ready to cooperate with other institutions which are now or may be established in Washington or elsewhere."

THE Russian Geographical Society has awarded this year its Constantine medal to the geologist, K. I. Bogdanovitch, who has spent several years in the exploration of Central Asia and

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